

4. Remarks

Reconsideration and further examination are requested.

a. **Disposition of the Claims**

Claims 1, 3-42, & 45 are pending in the application.

Claims 4, 6-18, 24-27, 29-32, & 35-42 are withdrawn as subject to a restriction requirement. A petition will be held in abeyance.

Claims 1, 19, & 33 are currently amended, without prejudice or disclaimer.

Claim 45 is new.

Claims 1, 19, & 33 are currently amended and claim 45 is new. Support for each amended or new claim is found in the as-filed specification. Claims 1, 19, & 33 are supported by claim 2 and paras. 95-96. Claim 45 is believed supported by the term chalcogenide.

Claims 2-3 & 43-44 are canceled, without prejudice or disclaimer.

This amendment adds, changes and/or deletes one or more claims in this application. A detailed listing of each claim that is, or was, in the application, irrespective of whether or not the claim remains under examination in the application, is presented, with a status identifier.

b. **Specification**

The specification was object to as failing to reflect the current status of the parent applications. Office action paras. 5.1-5.2. The Examiner is thanked. The present version of paragraphs 1-2 contains the suggested changes. This objection should be withdrawn.

c. **Written Description - 35 U.S.C. § 112, 1st paragraph**

Claims 1-3, 5, 19-23, 28, & 33-34 are rejected under 35 U.S.C. § 112, 1st paragraph as failing to comply with the written description requirement. Office action, para. 6. Written description focuses on words, drawings, etc. in the specification that show applicant's possession of the claimed invention. In this case, it is respectfully submitted that the concerns raised by the rejection are avoided.

There is no dispute about the words appearing in the specification (paras. 95-96 for the newly added *less than or equal to 25*) Nor is there a dispute about whether or not one of

ordinary skill in the art would know what an aspect ratio greater than, e.g., 5, 25, etc. is. Instead, the rejection emphasizes two concerns. First, it expresses a concern with “how a nanomaterial with an aspect ratio larger than 2 can be obtained.” Office action, p. 4. Here, nevertheless, the record also contains the Examiner’s admission that the specification enables one of ordinary skill in the art to make and to use nanomaterials having an aspect ratio greater than 2 and less than 25. Office action of 06-21-2007, para. 6. Within this ambit is the range 5-25, Thus, this concern is avoided by the present claims.

As a second concern, the present rejection states that the nanomaterials having an aspect ratio up to 25 must be polycrystalline. Office action, para. 6. Yet nowhere does the present specification state that nanomaterials having an aspect ratio up to 25 must necessarily be polycrystalline. To the contrary, the present specification not only lacks limiting language but it also contains examples of WO₃ having an aspect ratio 5 to 15 (para. 170) and W-doped-TiO₂ having an aspect ratio 3-20. (Para. 172). As such, both concerns are addressed, because the record shows possession by the words appearing in the specification, and because one of ordinary skill in the art would know what an aspect ratio greater than, e.g., 5, 25, etc. is. Thus, the rejection should be withdrawn.

d. Enablement -35 U.S.C. § 112, 1st paragraph

Claims 1-3, 5, 19-23, 28, & 33-34 are rejected under 35 U.S.C. § 112, 1st paragraph as failing to comply with the enablement requirement. Office action, paras. 7-8. The Examiner applies an improper squeeze play, which equates to the Examiner’s shifting the state of the art for whatever purpose the rejection needs to stand. On one hand, the Examiner alleges that the level of skill is so low that the claims are not enabled. Office action, paras. 7-8 (the upper limit in paragraph 8.2 is addressed by the present version of the claims). On the other hand, the Examiner applies an anticipation rejection (Bickmore, para. 10, *vide infra*) citing examples that she alleges are not enabled. Both sets of enablement and anticipation rejections cannot be true at the same time. Or, using legal terms, the sets of rejections are not supported by substantial evidence and must fail. Thus, this rejection should be withdrawn.

e. Anticipation-35 U.S.C. § 102 (Bickmore USPN 5,984,997)

Claims 1-3, 5, 19-23, 28, & 33-34 are rejected under 35 U.S.C. § 102 as anticipated by Bickmore. Office action, para. 10. The examples at columns 6-9 of Bickmore are believed to

make stoichiometric products. The present claims, on the other hand, recite *wherein the nanomaterial is nonstoichiometric* as in claims 1 & 33 or *faceted morphology* as in generic claim 19. Thus, the present rejection should be withdrawn.

f. **Anticipation-35 U.S.C. § 102 (Schooman, Xin, Jose-Yacaman, Loh, Liu)**

Claims 43-44 are rejected under 35 U.S.C. § 102 as anticipated by Schooman, Xin, Jose-Yacaman, Loh, and Liu. Office action, paras. 11.1-11.5 respectively. Claims 43-44 have been canceled without prejudice or disclaimer. Thus, this rejection should be withdrawn.

5. **Conclusion**

It is believed that the present application is in condition for allowance. Favorable reconsideration of the application is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

If a petition for an extension of time is required, then one is requested. The Director is hereby authorized to charge any fees under 37 C.F.R. §§ 1.16-1.17 & 1.21(m) (including deficiencies in payment) which may be required, or credit any overpayment to Deposit Account No. 50-4028.

Respectfully submitted,

Dated: 2008-07-17

By: Sean Allen Passino, Reg. No. 45,943/

Sean A. Passino
Reg. No. 45,943
Attorney for Assignee